

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/482,178	OSBORNE, II ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Mary J. Steelman	2122	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 1/21/2003, 9/16/2004, 2/3/2005.
2. ☒ The allowed claim(s) is/are 1,3-18 and 20-22.
3. ☒ The drawings filed on 12 January 2000 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |   |
|---|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)           |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                   |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance  |
|   | 9. <input type="checkbox"/> Other _____   |

*Anthony Nguyen Ba*

**ANTONY NGUYEN-BA  
PRIMARY EXAMINER**

**DETAILED ACTION**

1. This office action is in response to Request for Reconsideration and Telephone Interview dated 3 February 2005. Examine hereby withdraws the prior Final Office action.

***Double Patenting***

2. As indicated by Applicant, in Remarks received 01/21/2003, A Terminal Disclaimer is to be filed as related to of co-pending application 09/548203.

**EXAMINER'S AMENDMENT**

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with David Rouille, Reg. # 400150 on 3 February 2005 and 11 February 2005.

Claims 1, 3, 5, 18 and 22 have been amended as follows:

Art Unit: 2122

In The Claims:

1. (Currently amended) A method of testing a technology based object oriented software component of a computerized application under test that allows simultaneous users over a computer network, the method comprising the steps of:
  - a) providing test code automatically generated from analysis of the technology based object oriented software component that exercises said technology based object oriented software component of the application under test;
  - b) synchronizing and simultaneously executing a plurality of instances of the test code remotely located at a server, wherein said test code ~~accesses~~ tests said technology based object oriented software component of the application under test over said computer network and recording performance data on said technology based object oriented software component of the application under test;
  - c) repeating step b) multiple times, with a different number of instances of the test code; and
  - d) analyzing the recorded performance data to indicate a performance characteristic of said technology based object oriented software component of the application under test in response to load.
2. (Previously Cancelled)

Art Unit: 2122

3. (Currently amended) The method of claim 1 wherein the application under test is an object oriented language and the step of providing test code comprises providing test code to ~~exercise~~test one object oriented software component of the application.
4. (Original) The method of claim 1 wherein the step of synchronizing comprises starting each instance of the test code at the same time,
5. (Currently amended) The method of claim 1 wherein the step of synchronizing and executing comprises executing a portion of the plurality of instances of test code remotely located on a first computer and a portion of the plurality of instance of test code remotely located on a second computer connected to the network.
6. (Original) The method of claim 1 wherein the step of analyzing includes preparing a graphical display having as an independent variable the number of instances of the test code and the dependent variable is the performance data.
7. (Original) The method of claim 1 wherein the step of analyzing includes preparing a graphical display having as an independent variable the number of instances of the test code and the dependent variable is derived from the performance data.

8. (Previously Presented) The method of claim 1 wherein the application under test is resident on a first server within the network and the application has a remote interface and the test code is resident on at least a second computer within the network and exercises the object oriented software component of the application under test using the remote interface of the application under test.

9. (Original) The method of claim 1 wherein the step of analyzing includes displaying the analyzed data to a human user using a graphical user interface.

10. (Previously Presented) A method of testing a technology based object oriented software component of a computerized application under test that allows simultaneous users over a computer network, the method comprising the steps of:

- a) specifying test conditions through a user interface to a test system;
- b) initiating, across a network, through a user interface to the test system the gathering of test data on the performance of at least one technology based object oriented software component of the application under test at a plurality of load conditions, the load conditions including simultaneously running a plurality of instances of test code automatically generated from analysis of the technology based software component;

Art Unit: 2122

- c) specifying through a user interface to the test system the output format of the test data; and
- d) displaying in the specified format the response of said at least one technology based object oriented software component of the application under test to load.

11. (Original) The method of claim 10 wherein the specified format is a graphical format indicating response time as a function of load conditions.

12. (Original) The method of claim 11 wherein the specified graphical format is a Hi-Lo plot.

13. (Original) The method of claim 11 wherein the step of gathering data under a plurality of load conditions comprises initiating the execution of a plurality of copies of a test program, with the number of copies executing simultaneously relates to the load condition.

14. (Original) The method of claim 13 wherein the step of specifying an output format includes specifying a method by which response is measured.

15. (Original) The method of claim 13 wherein the step of gathering test data includes recording the execution time between selected points in the test

Art Unit: 2122

program for each simultaneously executing copy of the test program and analyzing the recorded execution times for all copies of the test program.

16. (Original) The method of claim 15 wherein the step of analyzing comprises determining the average and maximum execution times for each of the load conditions.

17. (Original) The method of claim 10 wherein:

- a) the computerized application under test comprises software resident on a server controlling access to a computerized database;
- b) the server is connected to a network and the application under test is simultaneously accessed by a plurality of clients over the network; and
- c) the test system is resident on at least a second server connected to the network.

18. (Currently amended) A method of testing a technology based object oriented software component of a computerized application under test that allows simultaneous users over a computer network, the application under test having a plurality of technology based object oriented software components, the method comprising the steps of:

Art Unit: 2122

- a) providing test code automatically generated from analysis of the technology based object oriented software component to exercise a selected technology based object oriented software component;
- b) creating a first plurality of copies of the test code;
- c) simultaneously executing the first plurality of copies of test code remotely located at a first server while recording times between events in each of the first plurality of copies of test code, wherein said test code accesses said technology based object oriented software component over the computer network;
- d) creating a second plurality of copies of test code,
- e) simultaneously executing the second plurality of copies of test code remotely located at a second server while recording times between events in each of the second plurality of copies of test code;
- f) repeating a predetermined number of times the steps of creating plural copies of the test code and simultaneously executing the plural copies while recording event times; and
- g) analyzing the recorded times to present information on the performance of the technology based object oriented software component of the application under test as a function of load.

19. (Previously cancelled)



Art Unit: 2122

20. (Previously Presented) The method of claim 18 wherein each object oriented software component has a plurality of functions therein and the test code exercises functions of the object oriented software components.

21. (Original) The method of claim 20 wherein the events at which times are recorded includes times at which commands are issued to access functions of the software components and times at which execution of the commands are completed.

22. (Currently amended) A system for determining performance of a technology based object oriented software component of an application under test in response to load, the system comprising:

- a) coordination software;
- b) at least one code generator, receiving as an input commands from the coordination software and having as an output client test code automatically generated from analysis of the technology based object oriented software component;
- c) at least one test engine, receiving as an input commands from the coordination software, the test engine comprising a computer server having a plurality of threads thereon, each thread simultaneously executing an instance of the client test code, wherein said client test code is remotely located at a first server and accesses said technology based object oriented software component over a computer network;

Art Unit: 2122

- d) at ~~least~~ least one data log having computerized memory, the memory holding timing data created by the instances of the client test code in the plurality of threads; and
- e) at least one data analyzer software, operatively connected to the data log, having an output that represents performance of the technology based object oriented software component of the application under test in response to load.

*Allowable Subject Matter*

4. Claims 1, 3-18, 20-22 are allowed.

5. The following is an examiner's statement of reasons for allowance:

As Applicant has pointed out on page 9, second paragraph, of Remarks submitted 16 September 2004, regarding the closest prior art of record, Weinberg, US Patent 5,974,572 in view of Logan 6,474,578, "Weinberg fails to disclose testing of technology based object oriented software component, while Logan fails to disclose testing of a technology based object oriented software component over a network, and neither Logan nor Weinberg disclose or suggest load testing a technology based object oriented software component by running multiple instances of the test code simultaneously." By Examiner's Amendment, claims 1, 3, 5, 18, and 22 have been further amended to reflect that the test code is run from a system located remotely from the component being tested, and therefore utilizes a network to test the component under test. This is in contrast to Logan's invention, which places the test code on a client workstation for testing.

A further search produced a related prior art, US Patent 6,708,327 B1 to Aliphas. However, Aliphas' invention fails to "provide test code automatically generated from analysis of the technology based object oriented software component", and fails to provide the step of "synchronizing and simultaneously executing a plurality of instances of test code."

All independent claims, claims 1, 10, 18, and 22 are allowed and thus all dependent claims, claims 3-9, 11-17, 20 and 21 are allowed.

Art Unit: 2122

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee.

Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mary Steelman, whose telephone number is (571) 272-3704. The examiner can normally be reached Monday through Thursday, from 7:00 AM to 5:30 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached at (571) 272-3695. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mary Steelman



02/14/2005



**ANTONY NGUYEN-BA  
PRIMARY EXAMINER**